

FIG. 1

1 FIRST OFDM TRANSMITTER

ORIGINAL DATA

102-1~102-N MAPPING UNIT

#1~#N SYMBOLS

#1~#N MAPPED DATA

10 TRANSMISSION DATA GENERATING UNIT (DSP CIRCUIT 14)

MODULATED DATA

110 ORTHOGONAL MODULATING UNIT

120 D/A CONVERTER CIRCUIT

124 FREQUENCY CONVERTER CIRCUIT

12 TRANSMITTER UNIT

TRANSMISSION SIGNAL

FIG. 2

14 DSP CIRCUIT

ORIGINAL DATA

140 INPUT IF

148 OUTPUT IF

TRANSMISSION DATA

10 TRANSMISSION DATA GENERATING UNIT

FIG. 3

110 ORTHOGONAL MODULATING UNIT

114-1 MIXER

I MODULATED DATA

TRANSMISSION DATA

Q MODULATED DATA

118 ADDER

114-2 MIXER

116 PHASE SHIFTER

FIG. 4

PEAK

SYNTHESIZED WAVE

SUBCARRIER NO. 8

INDIVIDUAL SUBCARRIERS

FIG. 5

2 SECOND OFDM TRANSMITTER

ORIGINAL DATA

10 TRANSMISSION DATA GENERATING UNIT

TRANSMISSION DATA

200 DELAY UNITS

206 SUBTRACTOR

FILTER OUTPUT DATA

DIFFERENTIAL DATA

22 FIR FILTER

202 LIMITER

204 SUBTRACTOR

20 FIRST PEAK SUPPRESSING UNIT

PEAK-SUPPRESSED TRANSMISSION DATA

12 TRANSMITTER UNIT

FIG. 6

THRESHOLD+

(A) TRANSMISSION DATA

PART A

PART B

THRESHOLD-

(B) DIFFERENTIAL SIGNAL

FIG. 7

THRESHOLD+

THRESHOLD-

FIG. 8

22 FIR FILTER

DIFFERENTIAL DATA

220-1~220-M DELAY UNITS

224 ADDER

FILTER OUTPUT DATA

222-0~222-M MULTIPLIERS

FIG. 10

FILTER OUTPUT DATA

FIG. 11

ORIGINAL WAVEFORM

SUBTRACTOR OUTPUT DATA

FILTER OUTPUT DATA

FIG. 12

THRESHOLD+

THRESHOLD-

FIG. 13

3 THIRD OFDM TRANSMITTER

ORIGINAL DATA

10 TRANSMISSION DATA GENERATING UNIT

TRANSMISSION DATA

200 DELAY UNITS

206 SUBTRACTOR

22-1 FIR FILTER #1

22-2 FIR FILTER #2

208 SWITCHING UNIT

210 LEVEL DETERMINATION UNIT

202 LIMITER

204 SUBTRACTOR

24 SECOND PEAK SUPPRESSING UNIT

12 TRANSMITTER UNIT

FIG. 14

4 FOURTH OFDM TRANSMITTER

ORIGINAL DATA

10 TRANSMISSION DATA GENERATING UNIT

20-1 PEAK SUPPRESSING UNIT #1

20-2 PEAK SUPPRESSING UNIT #2

12 TRANSMITTER UNIT

FIG. 15

PEAK SUPPRESSION BY 20-1

PEAK SUPPRESSION BY 20-2

FIG. 16

PEAK

MULTI-CARRIER SYNTHESIZED WAVE

INDIVIDUAL SUBCARRIERS: 16 WAVES

TIME

PEAKS

FIG. 18

FIR SYNTHETIC SIGNAL

AMPLITUDES ELSEWHERE THAN AT CENTER ARE SUPPRESSED

FIG. 19

SYNTHETIC FIR FILTER OUTPUT

IMPULSE RESPONSES OF INDIVIDUAL INPUT SIGNALS

FIG. 20

5 FIFTH OFDM TRANSMITTER

ORIGINAL DATA

10 TRANSMISSION DATA GENERATING UNIT

TRANSMISSION DATA

200 DELAY UNITS

204 SUBTRACTOR
202 LIMITER
206 SUBTRACTOR
260-1 FIR FILTER #1
260-2 FIR FILTER #2
208 SWITCHING UNIT
210 LEVEL DETERMINATION UNIT
26 THIRD PEAK SUPPRESSING UNIT
12 TRANSMITTER UNIT

FIG. 21

ORIGINAL WAVEFORM

DIFFERENTIAL (SYNTHETIC FIR FILTER OUTPUT)

LIMITER OUTPUT

DIFFERENTIAL

ORIGINAL

AFTER LIMITER

FIG. 22

6 SIXTH OFDM TRANSMITTER

ORIGINAL DATA

10 TRANSMISSION DATA GENERATING UNIT

28-1 PEAK SUPPRESSING UNIT #1

28-2 PEAK SUPPRESSING UNIT #2

12 TRANSMITTER UNIT

FIG. 23

28-1 (28-2) FOURTH PEAK SUPPRESSING UNIT

TRANSMISSION DATA

200 DELAY UNITS

206 SUBTRACTOR

FILTER OUTPUT DATA

DIFFERENTIAL DATA

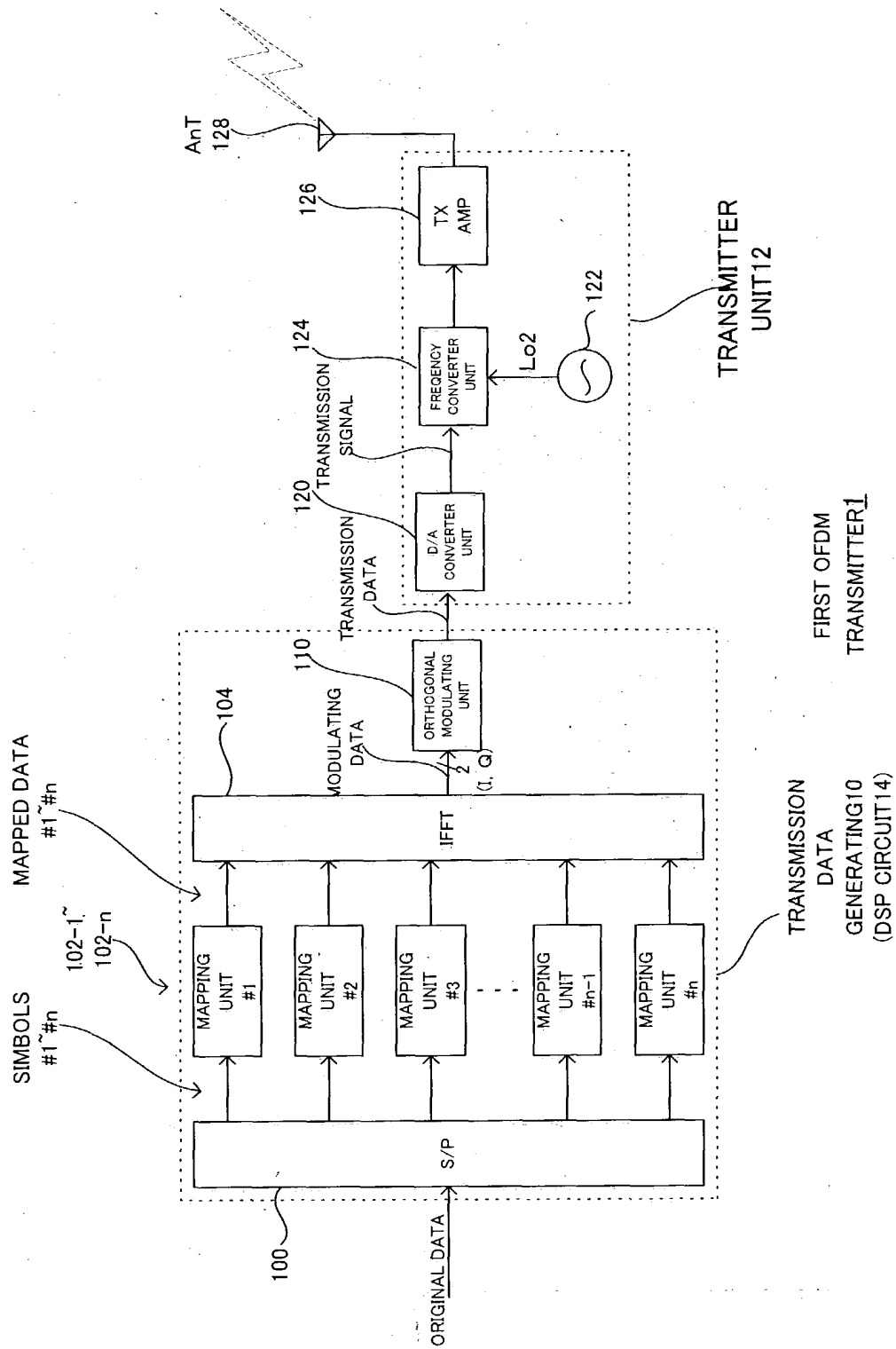
260-1 SYNTHETIC FIR FILTER

202 LIMITER

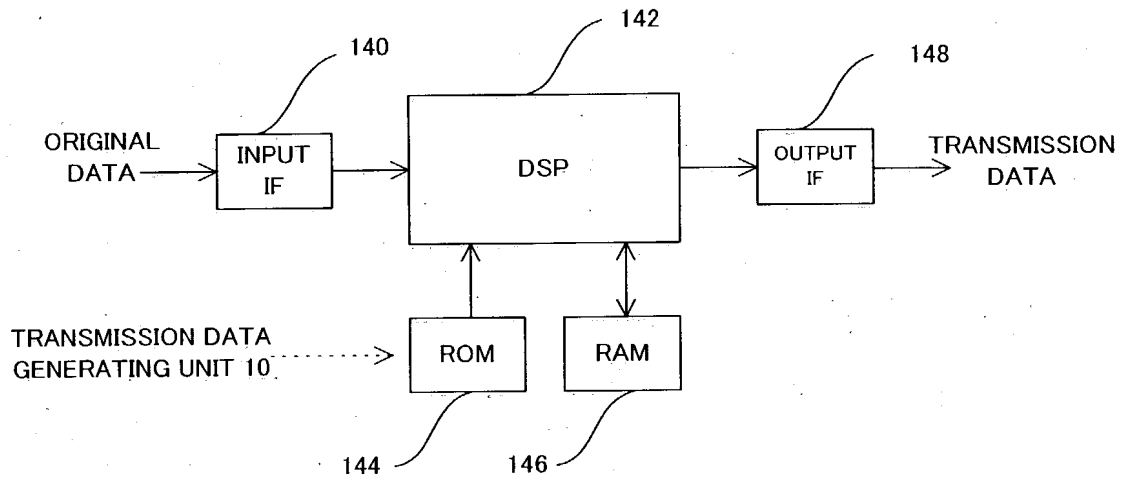
204 SUBTRACTOR

PEAK-SUPPRESSED TRANSMISSION DATA

[FIG. 1]

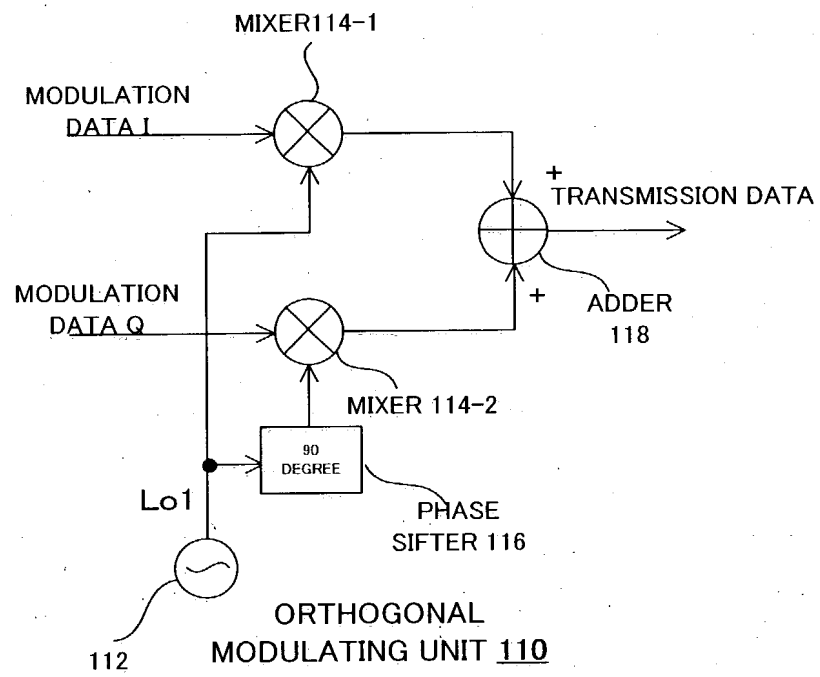


[FIG. 2]



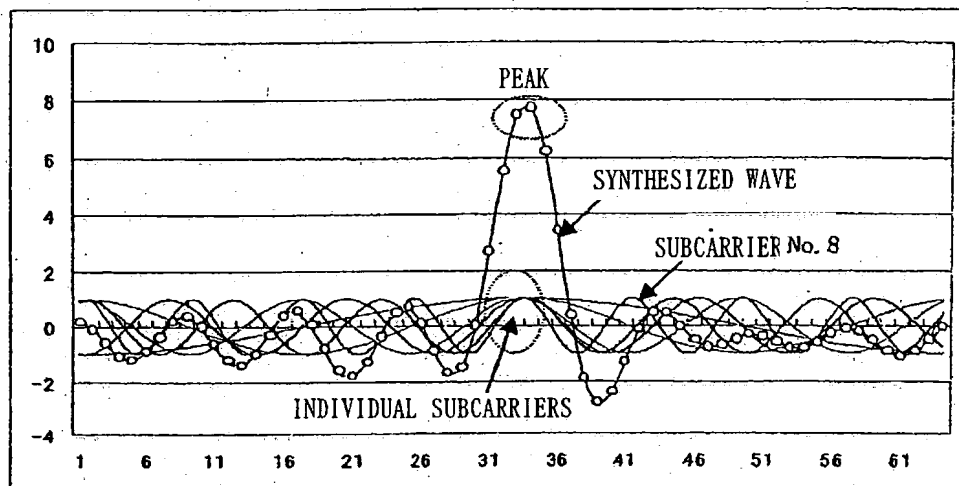
DSP UNIT CIRCUIT 14

[FIG. 3]

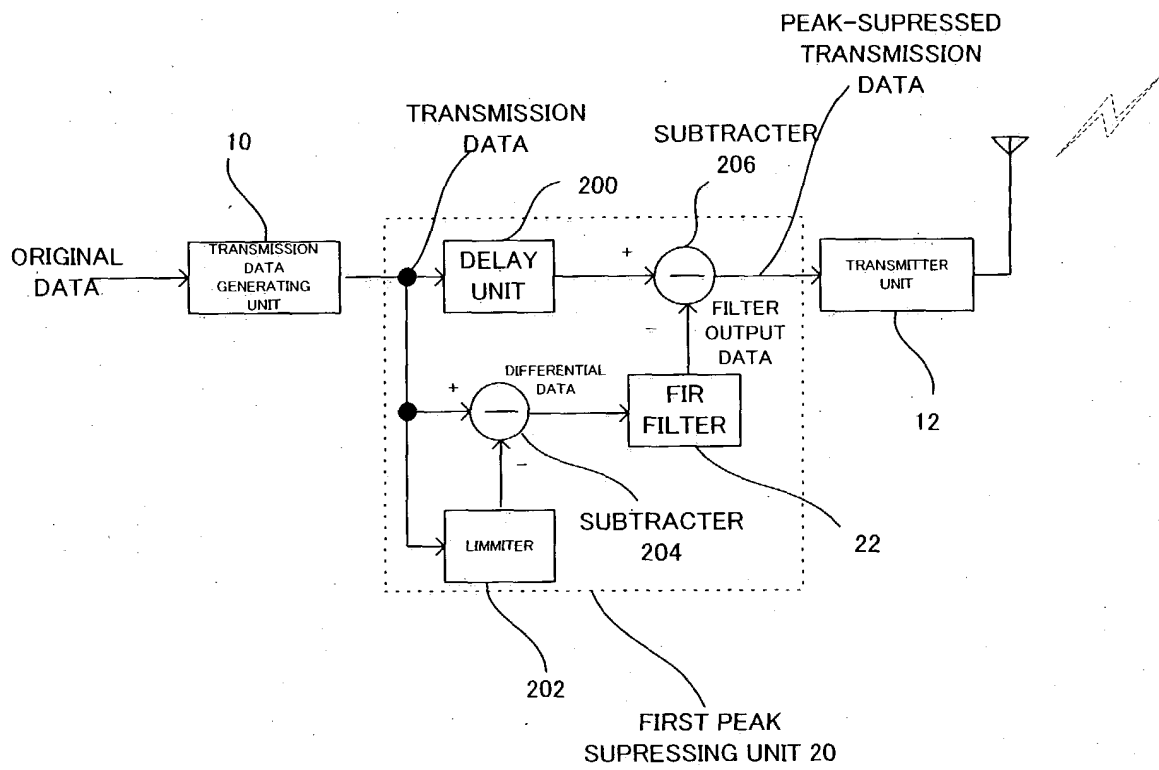


【図4】

[FIG. 4]

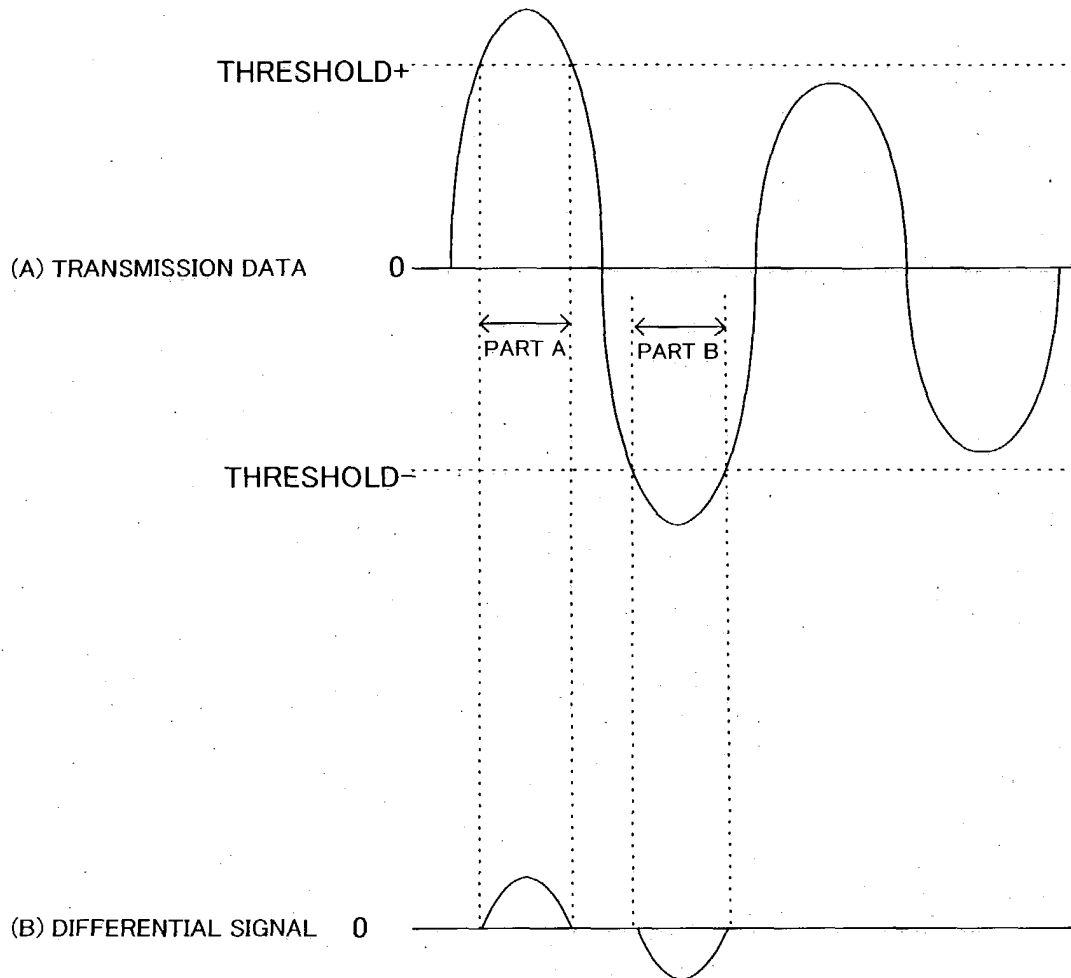


[FIG. 5]

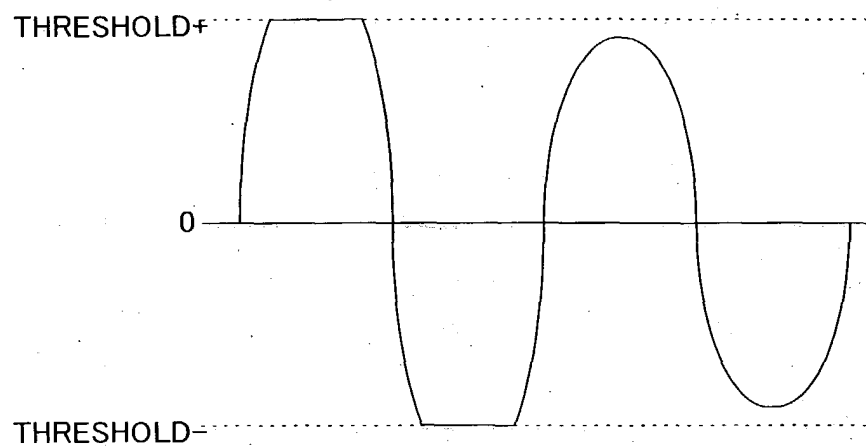


SECOND OFDM
TRANSMITTER2

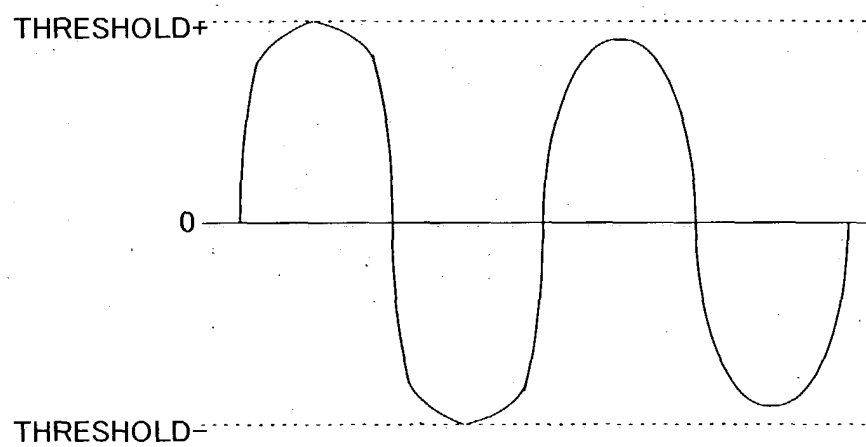
[FIG. 6]



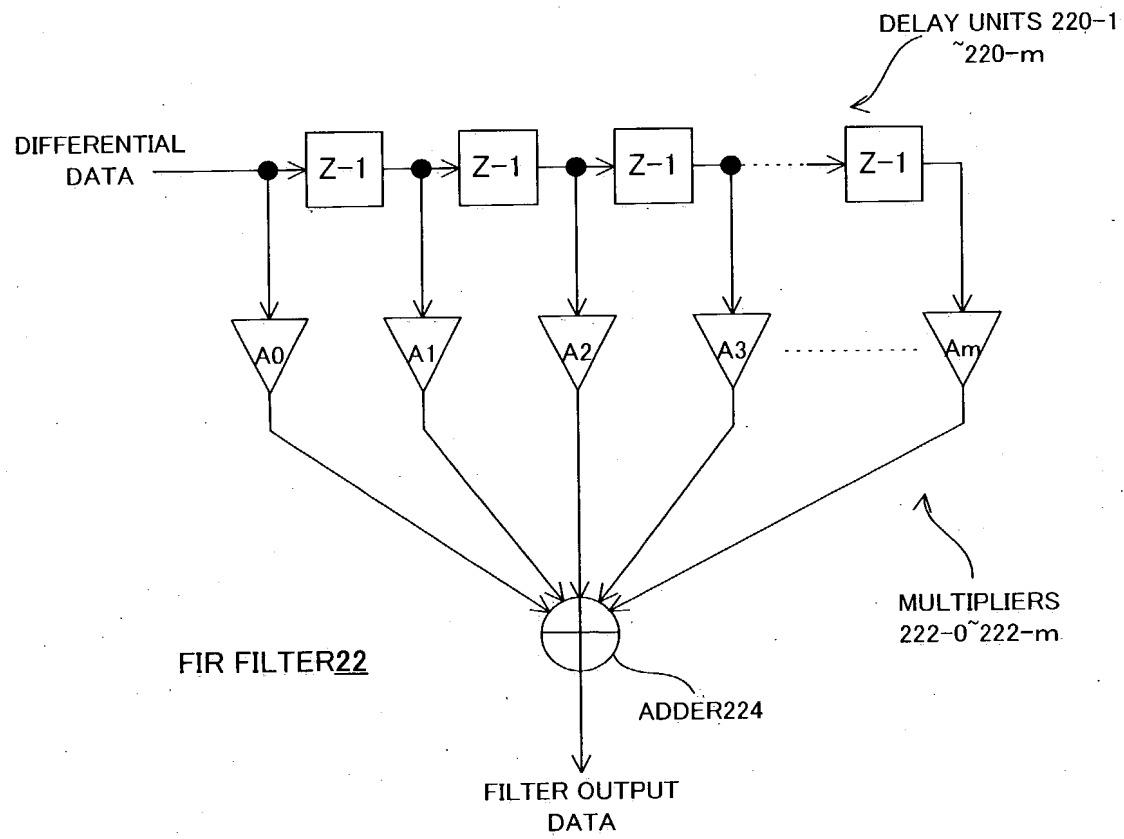
[FIG. 7]



[FIG. 12]

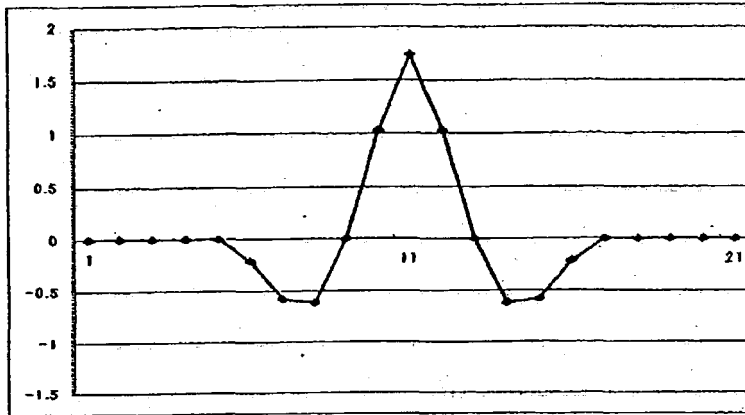


[FIG. 8]



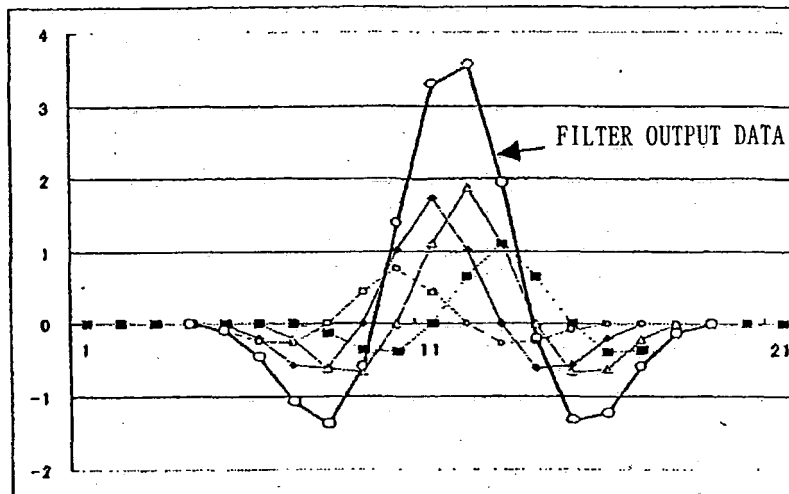
【図9】

[FIG. 9]



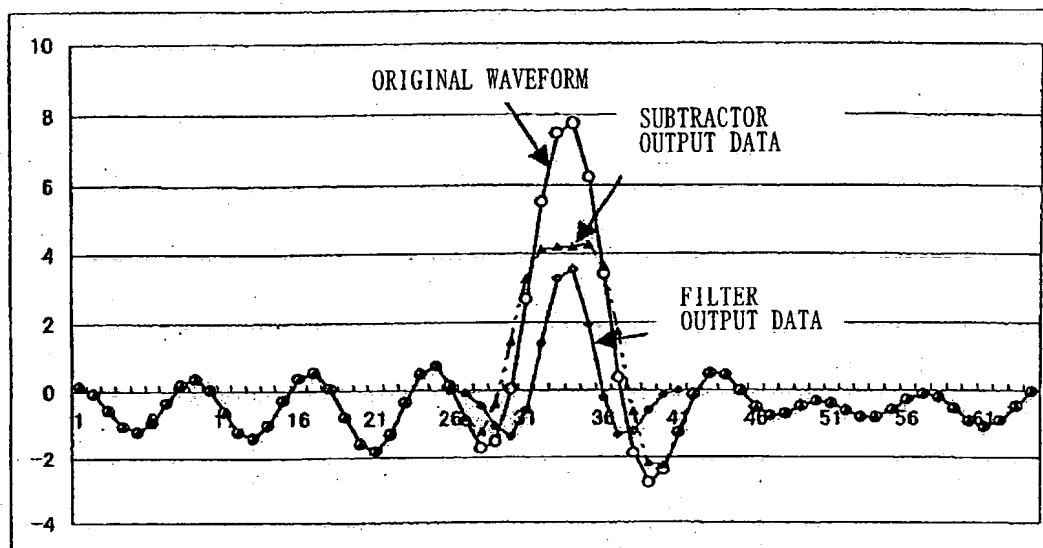
【図10】

[FIG. 10]

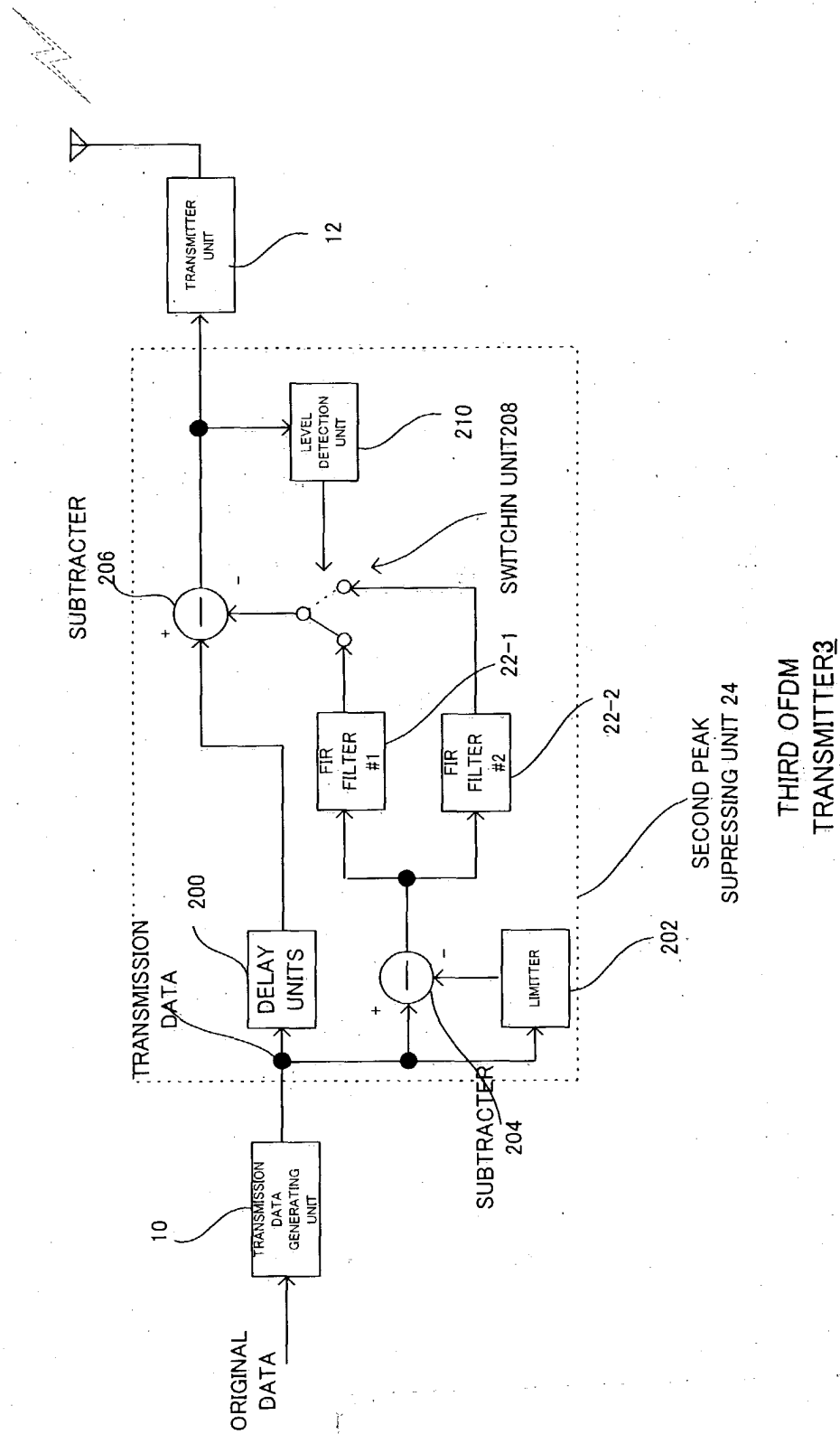


【図11】

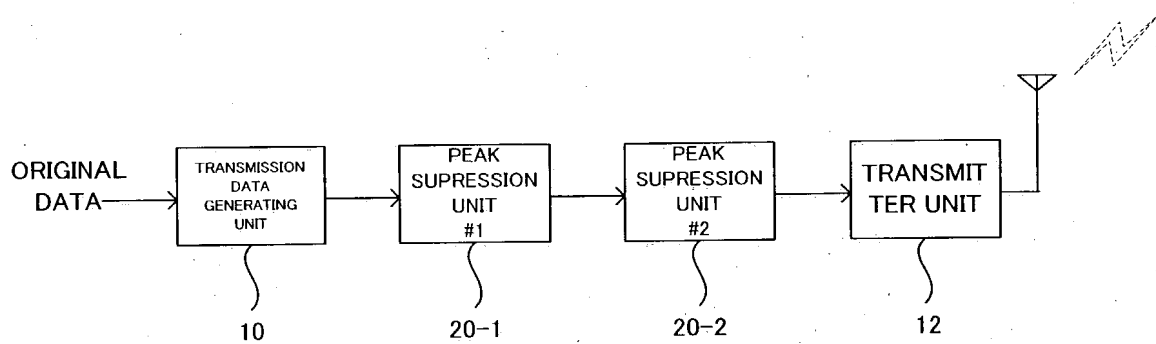
[fig. 11]



[FIG. 13]



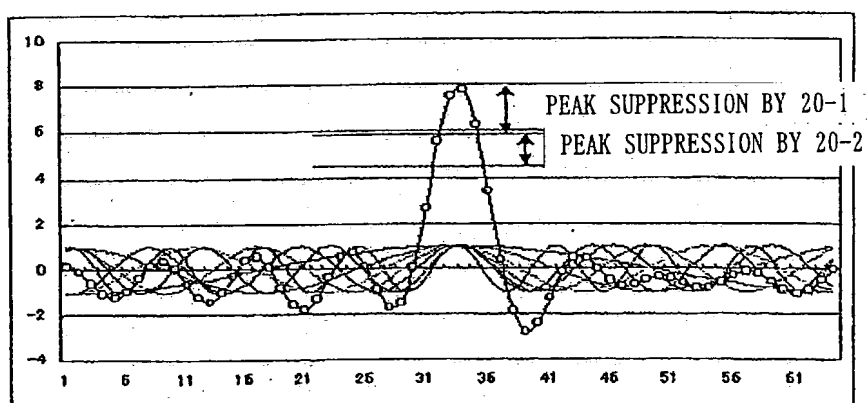
[FIG. 14]



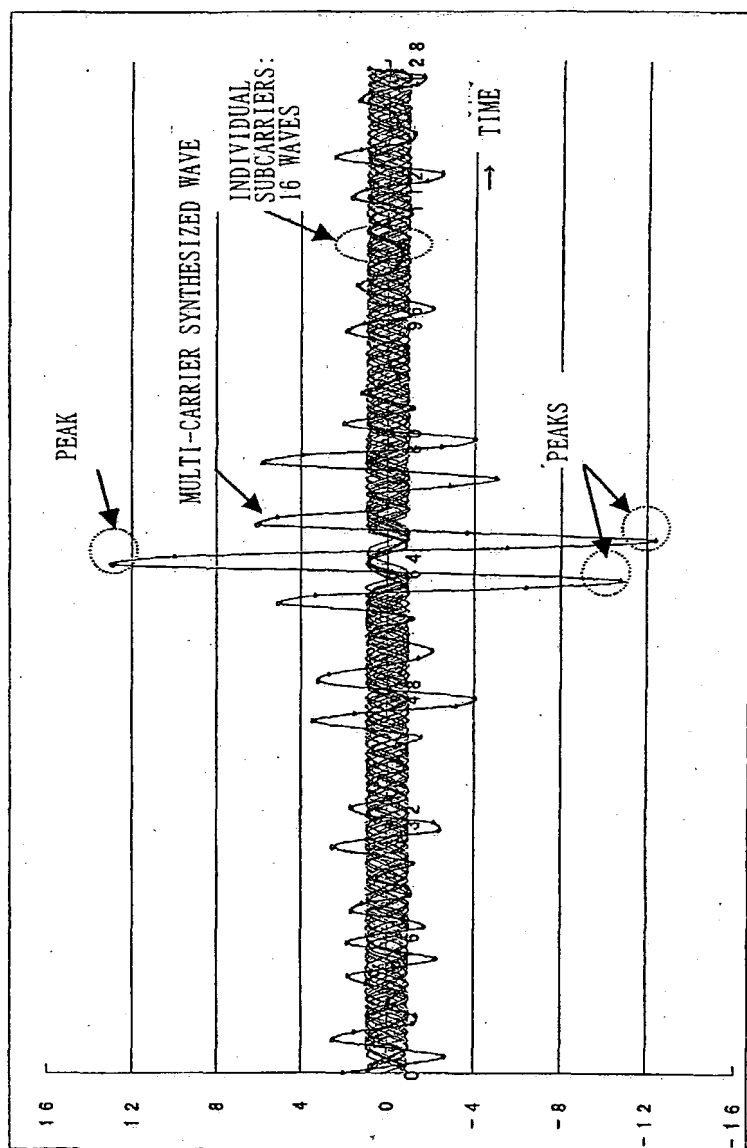
FOURTH OFDM
TRANSMITTER 4

【図15】

[FIG. 15]



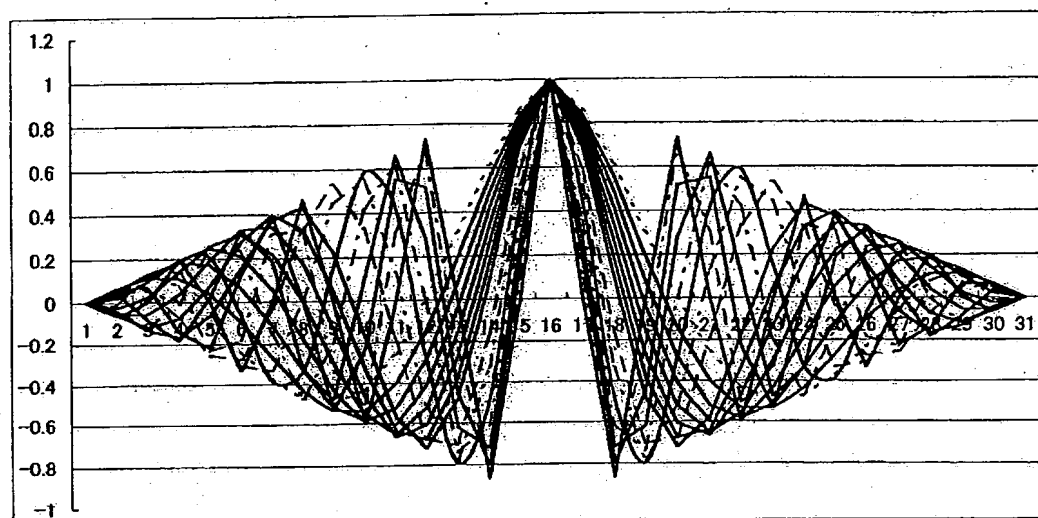
【図16】



【FIG. 16】

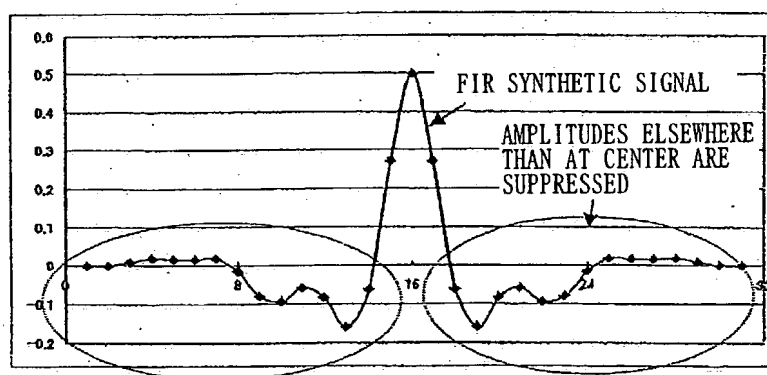
【図17】

[FIG. 17]



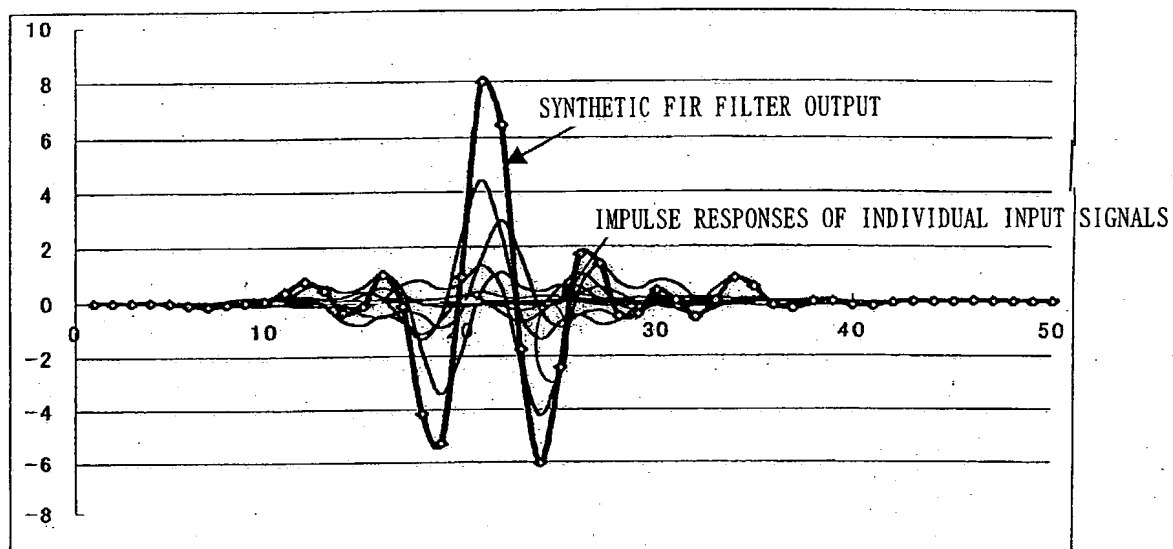
【図18】

[FIG. 18]

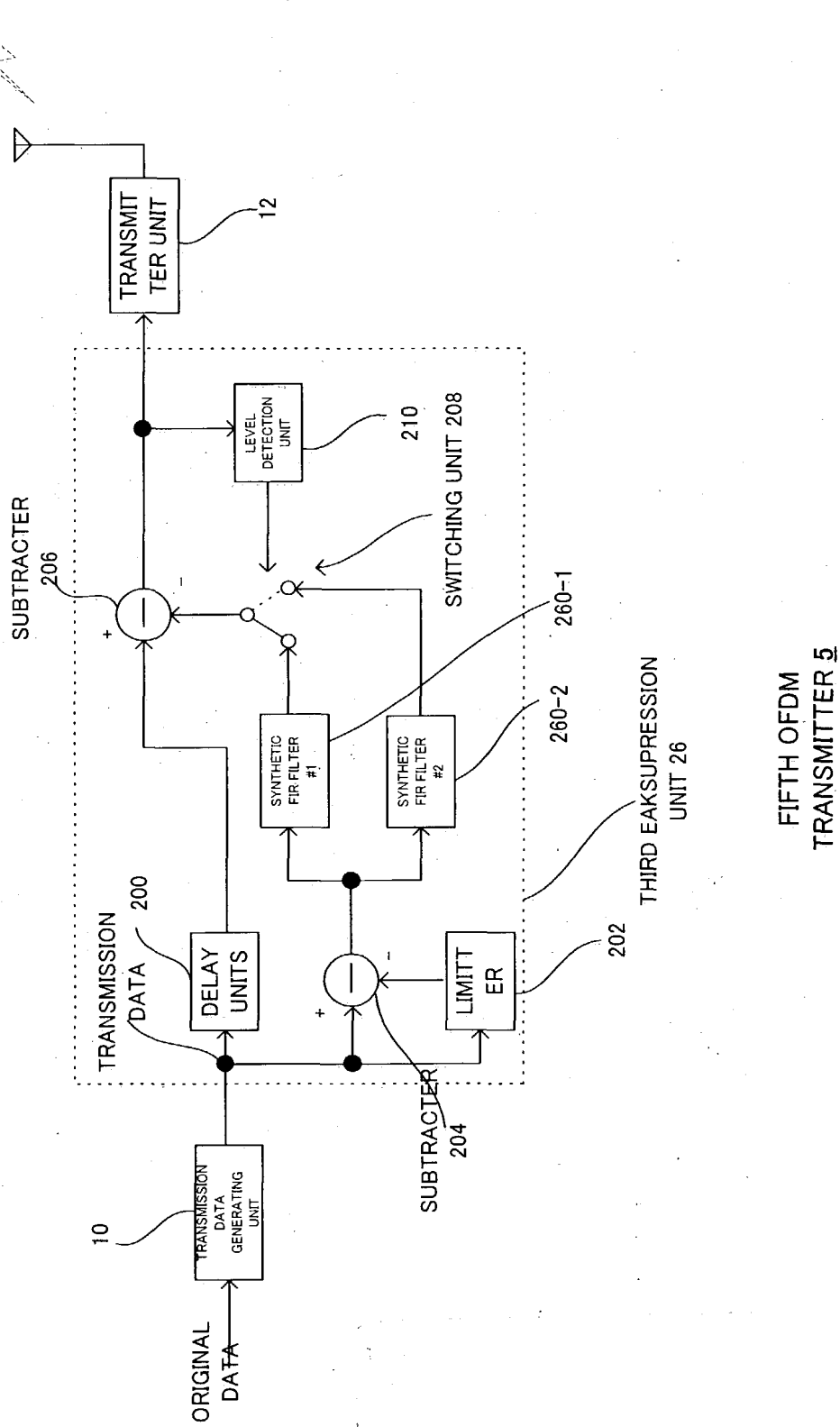


【図19】

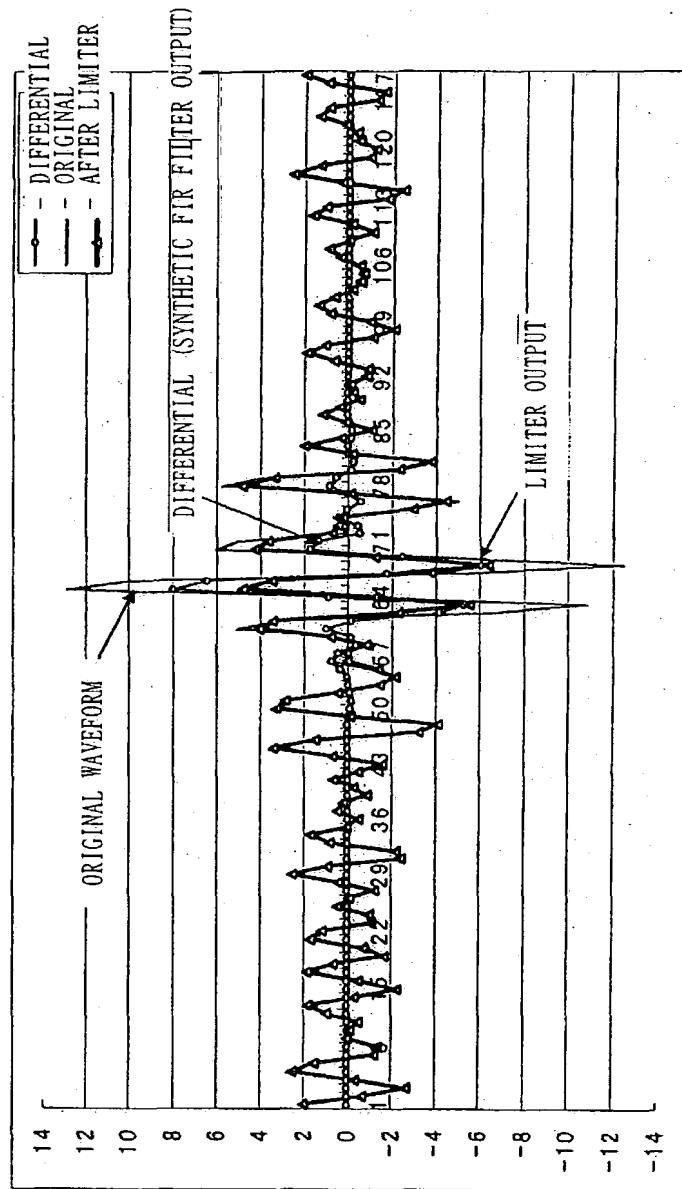
[FIG. 19]



20
[FIG. 16].

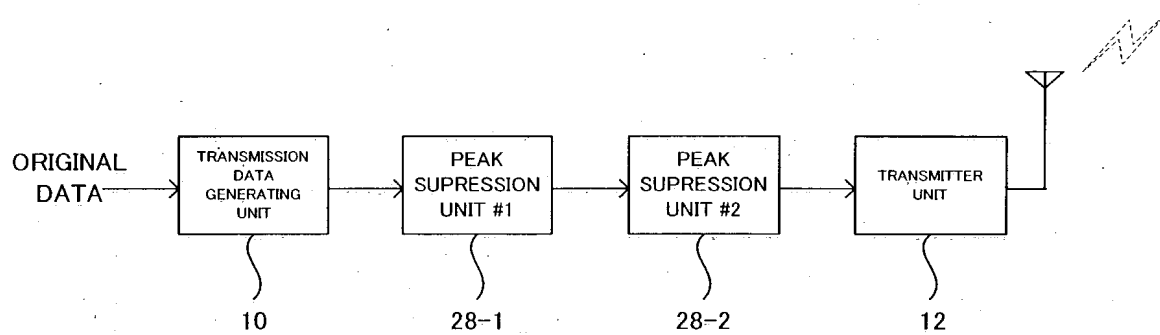


【図21】



[FIG. 21]

[FIG. ²²~~17~~].



SIXTH OFDM
TRANSMITTER 6

[FIG. 23].

